

Enabling Small Development Teams with Model-Based Design: Q&A with Airnamics

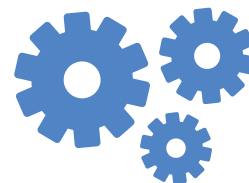


Marko Thaler, Cofounder and CEO, Airnamics

Based in Medvode, Slovenia, Airnamics develops advanced unmanned aerial systems (UAS) for film production, live broadcasts, GIS data capture, and engineering inspection.

What led you to look for a new way of working?

We needed to design two extremely complex systems: a redundant fly-by-wire control system and a flight management system for a 60 kg UAS. We started with handwritten C, but after about a year we hit a dead end in terms of development, testing, and debugging efficiency.



Model-Based Design enabled higher-quality code without expensive prototyping; development **costs were reduced tenfold.**

—Marko Thaler, CEO, Airnamics

Model
Design
Simulate
Verify

Why Model-Based Design?

We saw that only Model-Based Design would enable our three-engineer team to build a high-performance, high-end UAS in the allocated time frame. Model-Based Design enables us to define the basic system parameters and the control algorithm with very little experimental work or physical manufacturing. We can trace individual system and certification specification requirements to the actual code. This is crucial for Civil Aviation Authority certification.

What results have you seen so far?

Model-Based Design let us test virtually every part of the system on the ground. Bugs that previously took weeks to identify and repeated flight tests to resolve were fixed in hours via simulation. We found more than 95% of control software bugs before the first flight. The result is a safer, more reliable, and higher-quality product.



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